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Proposed
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Divisional application from FI 885371
suggested claims

1. A method of separating nicotine from a solvent which method comprises feeding a nicotine-containing solvent to a first end of an entrapment flow system containing a nicotine entrapment material and withdrawing the essentially nicotine-free solvent from a second end of the entrapment flow system, characterised in that a portion of spent entrapment material is periodically discharged from the first end of the entrapment flow system and a portion of fresh entrapment material charged to the second end of the entrapment flow system.
2. The method according to claim 1 characterised in that the entrapment material is an absorbent selected from carbon, silica, alumina, magnesium silicate and ion exchange resins.
3. The method according to claim 1 characterised in that the entrapment material is selected from tobacco, tobacco stems, tobacco plant products and cocoa shells.
4. The method according to claim 1 characterised in that the entrapment material is an absorbent selected from water, acid, aqueous acid and aqueous salt solutions.
5. The method according to claim any of the preceding claims characterised in that the entrapment material includes an absorbent selected from sulphuric acid, phosphoric acid, nitric acid, tartaric acid, citric acid, malic acid, lactic acid, malonic acid, succinic acid, acetic acid, glutamic acid or monopotassium citrate.
6. The method according to any of the preceding claims characterised in that the entrapment process is carried out in a plurality of entrapment vessels connected in series.

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7. The method according to claim 6 characterised in that two or more entrapment vessels connected in parallel are used in place of one or more of each of the serially-connected vessels.

8. The method according to claim 1 characterised in that the solvent is in the supercritical state.

9. The method according to claim 1 characterised in that the solvent is in the liquid state.

10. The method according to claim 8 or 9 characterised in that at least one entrapment vessel is periodically removed from the said first end of the entrapment flow system and at least one further entrapment vessel is added to the said second end of such system.

11. Apparatus for carrying out a process according to claim 1 characterised by a plurality of entrapment vessels (20-22) respectively, such vessels being connected together in series and adapted to accommodate a solvent in a supercritical state.

12. The apparatus according to claim 11 characterised in that two or more vessels connected in parallel are used in place of one or more of each of the serially-connected vessels.

13. The apparatus according to claim 11 wherein a plurality of entrapment vessels (20-22) containing entrapment material are connected in series to form an entrapment flow system having a first end and a second end such that nicotine-rich solvent can enter an entrapment vessel at said first end and exit as essentially nicotine-free solvent from an entrapment vessel at said second end, and apparatus also including at least one further entrapment vessel containing nicotine-free entrapment material which can periodically be connected to said second end of the flow system while at least one spent entrapment vessel is removed from said first end.

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14. A use of the method according to claim 1 for recovering nicotine from a nicotine-containing solvent used for extracting nicotine from tobacco.

15. The use of claim 14 wherein said nicotine-containing solvent has been used for extracting nicotine from tobacco in an extraction flow system wherein a portion of extracted tobacco is periodically discharged from the first end of the extraction flow system and a portion of unextracted tobacco charged to a second end of the extraction flow system.

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